

What is Claimed Is:

1. A method of forming a thin lubricant film on a recording medium, the method comprising:

applying a lubricant having at least one UV-polymerizable group on the recording medium;

heating the recording medium; and

exposing the lubricant to UV radiation to polymerize the lubricant.

2. The method according to claim 1, comprising heating the recording medium from about 50 °C to about 150 °C.

3. The method according to claim 1, comprising forming a protective overcoat on the recording medium prior to applying the lubricant.

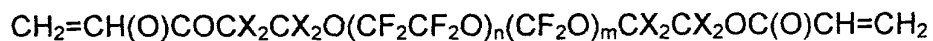
4. The method according to claim 3, comprising forming a carbon containing layer as the protective overcoat.

5. The method according to claim 3, comprising forming an amorphous carbon layer as the protective overcoat.

6. The method according to claim 1, wherein the lubricant comprises a fluoropolyalkylether having one or more acrylyl groups.

7. The method according to claim 6, wherein the fluoropolyalkylether comprises a plurality of $-(C_aF_{2a}O)_n-$ repeating units, wherein subscript a is independently in each such unit an integer of from 1 to about 10 and n is an integer from 5 to about 80.

8. The method according to claim 6, wherein the fluoropolyalkylether comprises a compound having the formula:



wherein each of n and m are 1 to about 200 and X is hydrogen or fluorine.

9. A method of forming a lubricant film on a substrate, the method comprising:

applying a lubricant having at least one UV-polymerizable group on the substrate;

heating the substrate or lubricant; and

polymerizing the lubricant by exposing the lubricant to UV radiation, wherein the UV radiation is substantially free of wavelengths less than 200 nm.

10. The method according to claim 9, comprising exposing the lubricant to UV radiation having wavelengths from 200 nm to about 400 nm.

11. The method according to claim 9, comprising heating the substrate or lubricant with an infrared heating source.

12. The method according to claim 9, comprising heating the substrate to above about 30 °C.

13. The method according to claim 9, comprising heating the substrate from about 50 °C to about 150 °C.

14. The method according to claim 9, comprising heating the lubricant from about 50 °C to about 150 °C.

15. A method of forming a lubricant film on a magnetic recording medium, the method comprising:

applying a lubricant having at least one UV-polymerizable group on the magnetic recording medium;

heating the magnetic recording medium; and

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polymerizing the lubricant by exposing the lubricant to UV radiation, wherein the UV radiation is substantially free of wavelengths at 185 nm or less.

16. The method according to claim 15, comprising heating the magnetic recording medium from about 50°C to about 150°C, wherein the magnetic recording medium comprises a substrate, a magnetic layer thereon and a protective coating on the magnetic layer.

17. The method according to claim 16, comprising exposing the lubricant to UV radiation having wavelengths from 200 nm to about 400 nm.

18. The method according to claim 17, wherein the lubricant comprises a fluoropolyalkylether having at least two acrylyl groups.

19. The method according to claim 15, wherein the polymerized lubricant has a total corrosion charge of less than 250 μ C and a stiction of less than 3 grams.

20. A magnetic recording medium, comprising
a magnetic layer; and
a means for lubricating the magnetic recording medium.

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